

COMMENTS AND ARGUMENTS

Telephone Interview

The examiner is thanked for the courtesy of the telephone interview on October 21, 2003. During the interview, the structure of Applicants' apparatus was discussed; specifically, the two different, adjacent shafts 28 and 30 in regard to claim 3, and the pivoting capability of the apparatus in regards to claims 5-7.

Peters, US 5,900,639, was also discussed. The examiner maintained the position that the roller 40 acts as a flag arm, and claim 1 only requires a single flag arm to interact with the photoelectric detector, thus the inability of arm 32 to act as a flag was moot.

When discussing the nature of Applicants' flag arms, it was acknowledged that the asserted flag arms of Peters were not identical in configuration as are those of Applicants.

Claim Objections

Claim 3 has been amended to clarify the claim; however, the claim was not amended as suggested. As noted in the response filed February 20th, pg 5, second paragraph, the shaft of claim 3 is *not* and cannot be the same shaft as that recited in claim 1 as the roller cannot be both mounted on a shaft while being adjacent to the same shaft. Since a second shaft is being introduced into claim, the wording of "a shaft" was applicable and permissible. For clarity, claim 3 has been amended to recite "a second shaft." The scope of the claim is not altered from that originally filed.

Claim 7 has been amended as suggested to provide proper antecedent basis.

35 U.S.C. § 102(b)

Claims 1-7 have been rejected under 35 U.S.C. 102(b) as being anticipated by Peters (Patent No. US 5,900,639). This rejection is traversed for the reasons set forth below.

Peters is held as disclosing a roller switch comprising a roller 28, a flag arm 40, a photoelectric detector 45 with the roller switch being characterized by a pair of flag arms 40, 32 with the roller 28 mounted on a shaft 30 that extends between the pair of flag arms 40, 32.

Applicants still disagree with the characterization of both the disc 40 and the arm 32 as "flag arms" as recited in the claim. Flag arms are known elements in machinery. Reference is made to US Patents 5615876, 5412521, and 5694101; all which disclose the use of flag arms, each flag arm is an arm or limblike feature that is used to signal or indicate information. In Webster's Dictionary an arm is "something like or corresponding to an arm"

as “a slender part of a structure, machine, or an instrument projecting from a main part, axis, or fulcrum.” The definition of flag when used as an attributive (i.e. used as an adjective equivalent in combination with another noun – which is how flag is being used in the present application) “something used like a flag to signal or attract attention.” Thus by both the common use in the machine art and by the dictionary definition, a flag arm is a slender, limblike element projecting from a main portion of the machine and used for signaling or indicating information. Neither the disc 40 nor the arm 32 meets this definition.

The disc 40 of Peters is flag-like in that it is used to signal information due to the movement of the projections 42 in front of the optical sensor 45. However, the disc 40 is not arm or limb like as recited by “flag arm.” The arm 32 of Peter meets the requirement of being an arm – it is a part that projects from a main part; but the arm 32 itself fails to provide any signaling or attracting. Even should the optical sensor 45 be moved to align itself over the arm 32, as the arm is adjacent to the means upon which the optical sensor 45 is located, movement of the arm 32 would fail to be detected by the optical sensor. To attempt to use the arm 32 as any sort of signaling means would require substantial modifications to the apparatus of Peters and is not suggested by Peters.

Regardless of the characterization of the disc 40 and the arm 32, amended claim 1 now recites that the flag arms are identical. Peters fails to teach or disclose that the disc 40 and the arm 32 are identical in structure. Thus Peters fails to anticipate the claimed invention.

Regarding claim 2, the tube, i.e. shaft, 36 of Peters does not extend between the two alleged flag arms 32, 40. Instead, only the arm 32 is connected to the tube 36. The disc 40 is instead adjacent to the shaft 36.

Regarding claim 3, as noted above, the claim has been misread and recites the presence of a shaft different from that of claim 1. Claim 1 recites that the roller is mounted on a shaft, and claim 3 includes the further limitation that the roller mounted on a shaft is adjacent to a shaft. Clearly, the shaft of claim 3 is a second shaft as something cannot be adjacent to itself. Even if the shaft 36 of Peters is interpreted as the second shaft, claim 3 recites that the two flag arms pivot about the second shaft. The disc 40 of Peters is not connected to and fails to pivot about the shaft 36.

Regarding claim 4, the applicability of Peters to the claim is questionable. Movement of the entire disc 40 from the rest state actually moves to block the photoelectric detector. Since portions of the edge of the disc has projections 42 and gaps 44, the gaps do unblock the detector.

Regarding claim 5, there is nothing in Peters which discloses that the switch is capable of rotating about one end when mounted on a support structure. The mechanism of Peters is securely and fixedly mounted to the frames 10, 12.

Regarding claim 6, there is nothing in Figure 2, either Figure 2a or 2b, which would permit the disc 40 or arm 32 to be fixedly raised. In fact, the arm 32 has a natural position of being lowered, not raised.

Regarding claim 7, any presumed endplate of Peter are plates 10, 12. Arm 32 is attached through shaft 36 to both plates; however, disc 40 is not attached to either end plate, contrary to the claims. Nor is there any disclosure of a locking tube or locking pins. Reference is made to col 3, lines 10-30 as disclosing such a feature – but there is nothing in that portion of Peters which discloses a locking tube and locking pins that aid in rotating the roller switch about one end plate. Instead, that portion of the patent discloses the electronic controls and a print head for the apparatus of Peters.

Regarding new claim 9, the claim is a rewritten combination of original claims 1 and 3. The claim recites that the roller is mounted on a first shaft, the first shaft extending between a pair of flag arms, and the flag arms pivoting about a second adjacent shaft. In regards to Peters, the disc 40 rotates, and does not pivot, about shaft 30 while arm 32 pivots about shaft 36; thus the asserted flag arms of Peters have different movements about two different shafts.

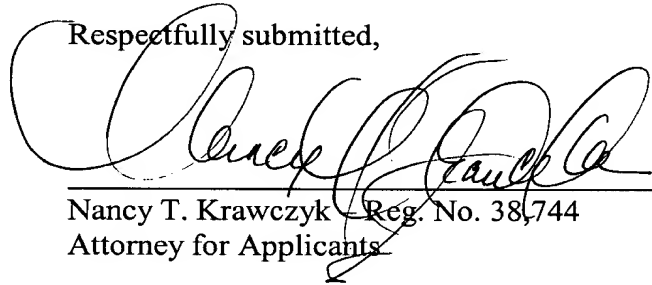
New dependent claim 10 is similar to original claim 2.

New claim 11 is supported by the original specification, see figure 1 and paragraphs 0014 and 0017. The prior art cited does not teach that the photoelectric detector can be mounted in variable locations.

New claims 12 and 13 are supported by the original specification, see figures 1-3 and paragraph 0016. Peters, and the previously applied Bingham, fail to disclose the flag arm as having a horizontal leg and a vertical leg.

Applicant believes the claims now pending in the subject patent application are in condition for allowance. The Examiner is respectfully requested to indicate allowability of all the pending claims.

Respectfully submitted,

A large, stylized handwritten signature in black ink, appearing to read 'Nancy T. Krawczyk', is written over a horizontal line.

Nancy T. Krawczyk - Reg. No. 38,744
Attorney for Applicants

The Goodyear Tire & Rubber Company
Department 823
1144 East Market Street
Akron, Ohio 44316-0001
Telephone: (330) 796-6366
Facsimile: (330) 796-9018